



## CHECK OUT THE NEWS FROM INSTITUTO JURUÁ

We started the year with some very happy news: our general director, João Campos-Silva, was recognized as a “hero of the environment” and inspiration for 2021 by CNN International. João shares these honors with the resident guardians of Amazonian rivers, our true heroes! Also, at the end of last year, Raimundo Nonato, a young leader from the RESEX Médio Juruá represented the region at the Semana Chico Mendes 2020 event.

Check out the work of the Voluntary Environmental Agents through the eyes of our guest columnist Maria Cunha, and enjoy an exclusive interview with the researcher Whaldener Endo (Óleo) on the importance of including terrestrial fauna in conservation plans. Andressa Scabin, communication director at Instituto Juruá, tells the emotional story of Paulo Boca, a hugely important amateur botanist who we sadly lost this month to Covid-19. André Antunes, another guest columnist, tells us about the historical management of forests, and we are please to share details of Gabriel Leite's recent paper which shows the importance of understanding the natural history to develop conservation plans for the endangered Wattled Curassow. Finally, be sure to check out our cultural recommendations in this edition full of good news!

# General director of Instituto Juruá, João Campos-Silva, is recognized as “environmental hero” by CNN International

By Clara Machado



Photo by Hugo Costa

After being awarded at the [Rolex Awards for Enterprise](#) in 2019, the general director of Instituto Juruá, João Vitor Campos-Silva, was recognized as an environmental hero to inspire us in 2021. The list by CNN International - “[Environmental heroes to inspire you in 2021](#)” - mentions people from different parts of the world with initiatives related to the environment to keep us optimistic for the coming year. In this inspiring list, João is accompanied by the Argentine Pablo Borboroglu who works on penguin conservation, Valerie Akuredusenge with her work in Rwanda on mountain gorilla conservation and environmental education in schools, and the sailor Emily Penn who brought together an all-female crew to sail

around the world to highlight the damage caused by plastic pollution in the oceans. The list also included a group of students who promoted a virtual COP 26 (United Nations Conference on Climate Change) to debate climate change in the midst of a pandemic, since the official event could not take place in 2020, among other incredible stories, told over the past year in the [Call to Earth](#) project. João's tireless work to align biodiversity conservation and human well-being is bearing fruit along the Juruá River, particularly in his scientific efforts to strengthen the participatory management of pirarucu fisheries in the region. Recognition is a rewarding part of this process and disseminating the results of our

conservation work in the mid-Juruá can inspire new initiatives worldwide. João, our beloved JB, is one of the links in a huge chain of interested, engaged and optimistic people who have united in the mid-Juruá region to make dreams come true, and who work collectively believing that a sustainable future for the Amazon will only be possible if conservation ensures the quality of life for local communities.

## Raimundo Nonato represents the mid-Juruá at Semana Chico Mendes 2020

By Clara Machado

Raimundo Nonato, resident of the São Raimundo community, represented the mid-Juruá at Semana Chico Mendes 2020, participating in the round table [“Aliança dos Povos da Floresta: Um olhar para o futuro”](#), organized by the Comissão Pró Índio do Acre and Comitê Chico Mendes, mediated by Camila Martins, which took place on December 17th. Raimundo Nonato is a young leader and current youth coordinator for ICMBio, and shared the table with Raimundo Mendes from the Secretaria de Trabalhadores Jovens Rurais in Acre, as well as Alana Manchineri, a young indigenous spokesperson from the Coordenação das Organizações Indígenas da Amazônia Brasileira and Ismael Shanenawa, an agroforestry agent from the Katukina/Kaxinawá Indigenous Territory in Acre.

The Semana Chico Mendes 2020, which brought together round tables covering the struggle and resistance of the “Alliance of Forest Peoples”, started in the 1980s when indigenous leaders and rubber tappers came together to demand rights such as territorial demarcation, economic autonomy and forest preservation. The alliance was fundamental for the inclusion of these guidelines in the Brazilian Federal Constitution of 1988 and today, under a political climate that threatens these basic rights, this Alliance of Forest Peoples is once again of strategic importance.

In his speech, Raimundo Nonato presented the work on monitoring and protecting areas in the mid-Juruá, achieved in collaboration with indigenous communities and long-standing partners, and attributed the success of these conservation actions to the power of collective efforts.



In addition, Raimundo brought out the importance of youth to continue the pioneering spirit of previous generations in the struggle, to maintain the engagement and culture of the mid-Juruá region, and to keep alive the history that their predecessors initiated and transmit it to future generations. In his words, “If our grandparents and parents were able to free us from the hands of the rubber barons, we



believe that today we have the opportunity of knowledge to continue this legacy and we need to embrace this cause.”

The Young Protagonists project in the mid-Juruá, of which Raimundo Nonato is a participant, has already trained around 200 young leaders who currently work in their rural communities, in addition to 150 Voluntary Environmental Agents who work in partnership with the managers of conservation units. These projects work mainly to combat the misuse of natural resources and to strengthen environmental education, through educational lectures in schools and visits to communities to mediate conflicts, as well to discuss important social issues such as the use of alcohol and illicit drugs.

According to Raimundo, “Chico Mendes lives in each one of us, who seeks a better Amazon and a better world. We are on the front line, trying to take Chico's legacy forward, and representing both present and future generations. And not only Chico's legacy, but also of other leaders who have already gone and fought for the same cause.”

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## | ORGANIZATIONS OF THE MID JURUÁ |

### **Voluntary Environmental Agents in the mid-Juruá**

By Maria Cunha

The Agente Ambiental Voluntário program (Voluntary Environmental Agent - AAV) works on developing collective attitudes to raise public awareness and respect for the environment. It is a creative experience that encourages people to learn, be and do, through the exchange of everyday experiences. The main focus of the program is to help the Voluntary Environmental Agents develop as environmental educators, to pass on information about how to use natural resources sustainably, to inform the public about current legislation and to carry out protection and surveillance actions, through environmental efforts.

In the mid-Juruá, voluntary work is part of the diverse strands of commitment, wisdom and creativity that this region cultivates, and the voluntary environmental agents are people from rural communities, with a spirit of leadership, positive attitudes and who like to work in defense of the environment. In almost all communities of the mid-Juruá, there is more than one agent, qualified to work in their communities and the surrounding area, who contribute substantially towards the management of conservation units, as well as to community organization and the strengthening of leadership in these communities. Taking care of the environment is everyone's task, and it is with this focus that the environmental agents of the mid-Juruá work, proposing environmental education activities to the communities that make people more aware of the need to take care of nature. Natural resources are depended upon by traditional people, and this connection to the forest is a culture cultivated by all who live here. Protecting these resources with a view to the future of the community and the world is a practice that is becoming more and more common in our region, as the idea becomes increasingly accepted that taking care of nature is taking care of life, both for the planet and for ourselves.

And with this focus on ‘caring for the environment’, AAVs have acted frequently in their communities and conservation units. As environmental educators, it is necessary to work on skills, creativity, respect, and awareness in order to guarantee success in the field, so that agents can: talk about environmental issues and seek to carry out continuous environmental education work; carry out practices to achieve the sustainability of

communities and neighboring areas; identify actions that harm the environment and mediate environmental conflicts; make each resident a catalyst for sustainable practices; give talks on environmental education in schools; organize and carry out, together with residents, community clean-up efforts; guide communities to preserve natural resources in protected areas; participate in community meetings and other events of interest and pass on any information acquired elsewhere to their home community to keep them updated; and hold frequent meetings with community leaders in order to plan sustainable actions. These are just some of the important actions that AAVs perform in the region, in their communities and conservation units. The work of the AAV, with the support of management bodies, partner institutions, leaders, among others, becomes increasingly important to build together a more sustainable present and future for our mid-Juruá. And, why not, for our Amazon and Brazil?

The mid-Juruá is a fertile land, every seed that is planted here, grows, is watered with great effort and dedication by all our people who inhabit our forests - a people who believe in the new, who get involved and make the desired changes happen for a better life quality. This work of the Voluntary Environmental Agents is a way of working with the future "guardians of the Amazon". That is why this awareness about caring for the environment is so important - so that a generation that can be prepared to fight to maintain the standing forest. This is how we proceed today, in the present, making small actions that will contribute to the arrival of a future increasingly rich in quality of life. Living in the forest is about having a quality of life that only nature can transmit. AAVs are part of these 'guardians' and our hope for the future is that communities, once they are aware, will increasingly work in harmony with nature, and that the sustainability of our region will become an increasingly productive path and rich in quality of life for the traditional peoples who live here. Because we believe that if the human being is capable of destroying, he is also able to discover how to use the land, reducing negative impacts and helping to preserve nature. We, as environmental agents, believe that taking care of the Amazon means working for the people who live here, people who are directly connected to the natural resources that nature provides. We already do a lot, but much environmental education is still lacking so that the Amazon can be 'delivered into good hands'.

As a message to you who read this text, I leave a reflection: what kind of people are we preparing to take care of our Amazon? You can also be a 'guardian of the forest' and make people aware of the benefits for the forest and our lives. Every small action is important if it is designed to conserve our natural resources. Taking care of the forest is a task that must be cultivated with great care by each one of us. The biodiversity of the mid-Juruá is our certainty that we are taking care of life and cultivating it. Being a voluntary environmental agent is, collectively, helping to lead a history of preservation for a better future.



Photo by Henrique Cunha

## Columnist

Maria Cunha lives at São Raimundo community, in the Médio Juruá Extractive Reserve. She is 27 years old, a sustainable production technician in conservation units, a voluntary environmental agent and a reading mentor for Associação Vagalume.

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## | INTERVIEW |

### Conservation of terrestrial fauna, with Whaldener Endo

By Clara Machado



Photo by Carlos Peres

*"Medium and large-bodied animals are important indicators of environmental health in natural areas, as they are the first members of biodiversity to leave, so it is necessary to include these groups, not least because besides their ecological importance, they are also the basis of subsistence for many families."*

Whaldener Endo, known to his friends as Óleo, is a biologist, with a PhD in Ecology and Natural Resource Management from the Norwegian University of Life Sciences (NMBU). He is currently an adjunct professor at the Federal University of Roraima. His academic trajectory focuses on Ecology and Conservation of terrestrial vertebrates, including topics such as the sustainability of subsistence hunting, conflicts between humans and animals and the effectiveness of establishing protected areas for the protection of biodiversity. Óleo participated in the initial phases of the Médio Juruá Project (PMJ) and the Programa de Monitoramento da Biodiversidade e do Uso de Recursos Naturais (ProBUC), contributing to fauna monitoring and data collection activities along the Juruá River. We invited Óleo to talk about his experience in the middle Juruá and his academic trajectory that involves such relevant subjects to the conservation of fauna and terrestrial environments.

[Read full-text](#)

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## What does the curassow-piurí feed on?

By Clara Machado

The wattled curassow (*Crax globulosa*) is a bird well known by people living along some rivers of the Amazon, where this species inhabits the flooded várzea forests. Like other birds in this family, the wattled curassow is very sensitive to hunting and deforestation, and natural populations have suffered such great losses in recent years that the species has been placed on both the Brazilian and IUCN Red Lists as “Endangered”. In order to outline conservation and management strategies for such species, it is essential to better understand its diet and other important requirements but, although it is a well-known bird, there are few studies on its habits or ecology. With this in mind, the study by Gabriel Leite, published in *Ornithology Research* and titled [“Diet of the Wattled Curassow \(\*Crax globulosa\*\) on the Juruá River, Brazilian Amazonia”](#), sought to better understand what the wattled curassow feeds on. For this, three individuals were monitored in the forest, the stomach contents of hunted curassows were analyzed, and residents of different communities from the Uacari Sustainable Development Reserve were interviewed. Unlike other birds in the family, the wattled curassow does not usually seek food on the forest floor, preferring to feed when it is perched in the trees. In the high-water season, when many trees bear fruit in abundance, is when the wattled curassow feeds up on fruits and seeds, their main source of food. But in addition, the bird also eats leaves, flowers and some invertebrates. They can forage in groups of up to eight birds, but groups of three are the most common. Gabriel found 51 different species of plants that serve as food for the wattled curassow - the most recurring ones were ‘mata-matá’ and ‘castanhola’, from the same botanical family (Lecythidaceae). The interviewed residents, in addition to confirming species already found in the research observations, added four plants to the list, based on their experiences sighting the animal in the forest. The wattled curassow feeds on a great diversity of plants, as well as some invertebrates, but it also has its particular preferences and habits and, knowing this basic information about its natural history, we take an important step towards its conservation.



Dr. Gabriel Leite holding a wattled curassow | Photo by Delcimar "Bombom"

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## | OPINION COLUMNS |

### **Forest management: as old as the time when humans and animals thrived**

By André Antunes

Within the discipline of Conservation Biology, 'management' is considered as a broad set of efforts and processes, involving the application of scientific tools in order to establish new perspectives in relation to the environment, both on a local and global scale. It is a relatively new word, used mainly from the 19th century, when society felt the need to plan actions to recover habitats and populations of species impacted by predatory human activities.

However, if we consider that management can also be understood as a set of practices that manipulate the environment with the aim to make it more conducive to human well-being and more resilient to vulnerabilities and uncertainties, we can see that management by definition is as old as human history itself. 'Taking care' of the land, 'guarding' or 'protecting' it, in addition to being recurrent terms in indigenous languages, also refer to economic, social and cultural practices that tend to transform the landscape over time. For example, planting and selecting fruit species most convenient to human well-being changes the forest structure and composition, and ends up attracting different species of animals, including larger-bodied animals frequently targeted by people as game species. In the Amazon, hunting is essential for feeding indigenous, traditional and peasant populations. Wildlife management is as diverse as



the social and ecological complexity of the region, and as its rich ethnic and biological diversity. For indigenous people, the very conception of the world goes back to a time when humans and animals used to socially interact. And the constant development of such social relations continues to demand a code of ethical conduct on the part of the hunter, with regard to hunting, to avoid the potential revenge of owner-spirits towards those who disrespect such norms.

Finally, one of the most important mechanisms for the Amazon's resilience to hunting is the continental extent of the forest itself! The difficult access to areas far from villages and communities ensures that animals are able to live and reproduce there, free from hunting. For Amazonian populations, management is an integral practice! It connects natural and supernatural, biological, physical and climatic elements, providing social, economic and cultural processes for the well-being and ways-of-life of rural people. Above all, the management of the Amazon requires that standing forest and indigenous/traditional territories are properly secured!



Photo by Luiza Antunes

### Columnist

André Antunes is a biologist with a doctorate in Ecology from the National Institute of Amazon Reseraches, seeking to combine research and extension as a way to improve the effectiveness of fauna management and conservation practices in the Amazon. His efforts are at subsidizing planning and implementation of conservation in landscapes, combining scientific tools and traditional knowledge.

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## The Amazon loses one of the greatest connoisseurs of its flora

By Andressa Scabin



Photo by Andressa Scabin

Paulo Apóstolo Costa Lima Assunção, known by his friends as “Paulo Boca” was born in 1956 in Marabá, Pará. During the 1980s, the young Paulo worked as a gold miner in Serra Pelada, before he gathered his savings and took a boat to Manaus. His idea was to buy goods in the Manaus Free Economic Zone and to open an electronics store in his homeland, but on his first day in Manaus, he was robbed and thieves took all his money.

Shortly after, Paulo heard through some friends that the Biological Dynamics of Forest Fragments Project (BDFFP) at the National Institute of Amazon

Researches (INPA) was hiring field assistants, the so-called ‘mateiros’, and he decided to apply for a position. It was then, in 1986, that the career of one of the most recognized amateur botanists (parabotanists) in the Amazon began.

Paulo stood out on one of his first assignments, when working on a subproject led by researcher Scott Mori from the Botanical Garden of New York, a specialist in the Lecythidaceae - the botanical family that includes the Brazil nut tree. During this work, Paulo contributed to practically double the number of species described for this family in the Amazon, according to Mike Hopkins, INPA botanist, in an interview for the newspaper Folha de São Paulo.

In 1993, he was hired for the Ducke Reserve Flora Project where he worked for 6 years with researcher Mike Hopkins. As a member of this team, he helped produce one of the most important references for the identification of Amazonian plants, the “Flora of Reserva Ducke: Guide to the identification of vascular plants in a terra-firme forest in central Amazonia.”

More than three decades of expeditions in the forests, followed by immersions in the INPA herbarium, meant that Paulo accumulated a vast experience in the identification of plant species. The combination of

his different view of the forest and the scientific knowledge he acquired in a self-taught fashion, through botanical collections and in conversation with various researchers, made Paulo one of the most sought-after parobotanists for plant identification anywhere in Brazil, and he worked extensively with multiple research projects and environmental consultancies.

Despite not having had the opportunity to graduate at a higher level, Paulo's work helped to train dozens of masters and doctoral students, and enabled the publication of important scientific research, which presented the immense diversity of the Amazonian flora to the whole world. Beto Vicentini, a researcher from INPA said, "Paulo was not trained at them [universities], but was a professor at them".

In the Middle Juruá, he was responsible for the identification of plant species in three doctoral projects: the research by Joseph Hawes on the fruits produced by trees in flooded and unflooded forests, the investigation by Yennie Brendin on the carbon storage potential of floodplain forests, and Andressa Scabin's research on the effect of hunting for wild animals on forest regeneration and carbon stocks in upland forest. "What seemed like an impossible mission, we did! There were more than 13,000 marked and identified plants belonging to about 850 species, which were sampled in 7.5 hectares distributed over an area whose river distance was approximately 800 km!!! We travelled by boat, speed-boat, canoe and even quad-bike to access the plots in the city of Itamarati! Everywhere we went, Paulo was known as the guy who knows all the plants", says Andressa Scabin.

On January 12th 2021, we lost to COVID-19 our great friend and teacher Paulo Boca. Brazilian botany is in mourning. Professionals like Paulo are very rare, and require a lifetime of dedication to be trained. However, Paulo's legacy will forever remain not only in all the science he helped to produce, and in all the researchers he trained, but also in the young people who he inspired. It is in these young people that our hope lies - that professionals will emerge to continue this differentiated view of the forest, and whose knowledge will be built on intimacy, admiration and curiosity for the forest.

Among these young people is Paulo Samuel Assunção, 22-year-old, Paulo's middle son, who already followed in his father's footsteps and had the opportunity to accompany him on some expeditions. In his words, "I decided that I want to pursue my father's career. I know it will be difficult and I don't even pretend to be as good as my father, but I will dedicate myself to the maximum and enjoy the master I have at home".

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## | IJ RECOMMENDS |



- [Fogo Aflora](#), new album by Casa de Caba

- [Who defines who is indigenous?](#) Chat about ethnicity and violence with Kaê Guajajara.
- Guns, Germs and Steel - The Fates of Human Societies, Jared Diamond's book.
- [Para onde foram as andorinhas?](#) Short film produced by Instituto Socioambiental and Instituto Catitu on the perceptions of the Xingu Indigenous Peoples regarding climate change.

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